WHAT IS CLAIMED IS:

1. A deformable mirror comprising:

a reflecting surface disposed on a diaphragm;

a diaphragm carrier that supports the diaphragm, wherein the diaphragm carrier defines a non-circular, pressurizable rear surface of the diaphragm.

2. The deformable mirror of claim 1, wherein the rear surface is an approximately rectangular surface.

3. The deformable mirror of claim 1, wherein the rear surface is an approximately oval surface.

4. The deformable mirror of claim 1, wherein the rear surface is an approximately elliptical surface.

5. The deformable mirror of claim 1, wherein the diaphragm carrier comprises a lateral recess substantially parallel to the reflecting surface and adjacent to the rear surface of the diaphragm.

6. The deformable mirror of claim 1, further comprising a cooling fluid in contact with the rear surface of the diaphragm.

7. The deformable mirror of claim 6, wherein a pressure of the cooling fluid is different from a pressure on the reflecting surface, such that the shape of the reflecting surface is deformed.

8. The deformable mirror of claim 1, further comprising an actuator for pressurizing the rear side of the diaphragm.

9. The deformable mirror of claim 1, wherein the diaphragm carrier comprises a pipe socket with circular outer cross-section.

10. A method of reflecting a laser beam, the method comprising:

directing the laser beam onto a deformable, reflecting surface, supported by a pressurizable diaphragm;

altering a pressure within a diaphragm carrier that supports the diaphragm to deform the shape of the diaphragm and the reflecting surface, wherein the diaphragm carrier defines a non-circular pressurizable, rear surface of the diaphragm.

11. The method of claim 10, wherein the rear surface is an approximately rectangular surface.

12. The method of claim 10, wherein the rear surface is an approximately oval surface.

13. The method of claim 10, wherein the rear surface is an approximately elliptical surface.

14. The method of claim 13, further comprising providing a cooling fluid in contact with the rear surface of the diaphragm.

15. The method of claim 14, further comprising altering a pressure of the cooling fluid.

16. The method of claim 10, further comprising actuating an actuator to apply pressure to the rear surface of the diaphragm.

17. The method of claim 10, wherein the diaphragm carrier is a pipe socket with circular outer cross-section.